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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/477,764	01/04/2000	CHIA-HONG JAN	042390.P5488	9702

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EXAMINER

VU, HUNG K

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/477,764

Applicant(s)

JAN ET AL.

Examiner

Hung K. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 8,10-12,14 and 123-128 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10-12,14 and 123-128 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8, 10, 12 and 124 – 128 are rejected under 35 U.S.C. 102(e) as being anticipated by Yu et al. (PN 6,271,563).

Yu et al. discloses, as shown in Figures 1-5, a gate electrode comprising,

a gate layer (21 or lower portion of 20) disposed above a substrate (12), the gate layer having a substantially level upper surface (see Figure 2);

a conductive layer (upper portion of 20) disposed over the gate layer, the conductive layer extending beyond edges of the gate layer (see Figure 3);

thin first spacers (19) disposed in contact with opposite sides of the gate layer and below the conductive layer;

thick second spacers (22) disposed in contact with the thin first spacers, each thick second spacer having a width throughout its height which is constant in a direction parallel with the thin first spacers.

With regard to claim 10, Yu et al. discloses the gate layer comprises polysilicon (see Figure 2).

With regard to claim 12, Yu et al. discloses the thin first spacers comprise oxide (see Figure 2).

With regard to claim 124, Yu et al. discloses the thin first spacers are at least as high as the thick second spacers (see Figure 1).

With regard to claim 125, Yu et al. discloses the thick second spacers are at least twice as thick as the thin first spacers (see Figure 1).

With regard to claim 126, Yu et al. discloses the thick second spacers are between 800 to 1500Å (within the range of 300 and 2000Å) (see Col. 3, lines 35-37).

With regard to claim 127, Yu et al. discloses the thick second spacers are at least 800Å thick (see Col. 3, lines 35-37).

With regard to claim 128, Yu et al. discloses the thick second spacers are at least 800/100 times as thick as the thin first spacers (see Col. 3, lines 34-37).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 14 and 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al. (PN 6,271,563) in view of Matsumoto et al. (PN 5,726,479, of record).

With regard to claims 11 and 14, Yu et al. discloses the claimed invention including the gate electrode, as recited in the rejection above. Yu et al. does not disclose the conductive layer comprises polycide (titanium salicide). However, Matsumoto et al. disclose a gate electrode comprises a conductive polycide layer (titanium salicide, 9a). Note Figures 1, 2(f) and 7-9 of Matsumoto et al.. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conductive layer of Yu et al. comprising polycide (titanium salicide), such as taught by Matsumoto et al. in order to reduce the contact resistance and to improve the conductivity of the gate electrode.

With regard to claim 123, Yu et al. discloses the claimed invention including the gate electrode, as recited in the rejection above. Yu et al. does not disclose the thick second spacers comprise nitride. However, Matsumoto et al. disclose the thick spacers (7a) comprise nitride. Note Figures 1, 2(f) and 7-9 of Matsumoto et al.. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the thick spacers of Yu et al. comprising nitride, such as taught by Matsumoto et al. since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

3. Applicant's arguments with respect to claim 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

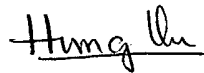
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

April 5, 2004

A handwritten signature in black ink, appearing to read "Hung Vu", written over a horizontal line.

Hung Vu

Patent Examiner